

## **REMARKS**

### **FORMAL MATTERS**

Claims 45-47 are pending in this application. All of the claims have been rejected by the Examiner. Applicants have amended claims 45 and 47 to clarify the claims grammatically, and to clarifying that the sequence claimed hybridizes to the complement of the sequence in Figure 6. Claim 46 has also been amended to more properly describe the hybridization conditions used in the experiment to generate Figure 3. See page 8, lines 13-26; see *also* page 20, lines 2-7. Applicants have also added new claims 48-53 to recite that the *pol* fragments of the invention include particular nucleic acid sequences. Support for these amendments may be found in Figure 6 (or the specification pages 26-28) in combination with Figure 5.

### **WRITTEN DESCRIPTION**

The Examiner has maintained his rejection of claims 45-47 as allegedly lacking written description support in the specification under 35 U.S.C. § 112, first paragraph. The Examiner expresses his concern about the scope of the terms "at least a portion of a *pol* gene," "at least a portion of the nucleic acid sequence of a *pol* gene," or "at least one domain in a *pol* gene of HIV-1<sub>BRU</sub>." The Examiner argues that the specification shows that Applicants were in possession of the full-length *pol* gene, but allegedly were not in possession of a large genus corresponding to Pol polypeptide fragments, nucleic acid sequences encoding them, or probes capable of hybridizing to the fragments under the recited conditions.

In the prior response, Applicants argued against this rejection by emphasizing that (1) the invention should not be limited to certain preferred embodiments; (2) the *Enzo* case requires the Examiner to allow these claims; and (3) the Declaration of Dr. Alizon establishes that the inventors had possession of at least two specific nucleic acids having at least a portion of the *pol* gene.

In response, the Examiner argues that the specification does not provide the nucleotide sequences for these constructs comprising at least a portion of the *pol* gene. The Examiner also expresses concern that the constructs also contain portions of other HIV-2 gene products. The Examiner did not address Applicants' arguments regarding whether it is permissible to limit the invention to the preferred embodiments.

Applicants maintain the prior arguments and will not repeat them all here in their entirety. In response to the Examiner's arguments regarding whether the specification provides any sequence information on the *pol* fragments, Applicants believe that it does. Specifically, combining the full nucleotide sequence of HIV-2 (and the *pol* sequence within it), with the restriction maps for the two plasmids yields significant information on the two constructs.

The pROD4.8 sequence includes the entire *pol* gene, as it spans from 1457 (Hind III) to 5723 (Hind III). The pROD35 plasmid includes position 2658 (EcoRI) and continues to the 3' LTR, therefore it contains a fragment of the *pol* gene from 2658 to 4936. Furthermore, the pROD27 plasmid includes the 5' LTR to position 2658 (EcoRI), and thus contains part of the *pol* gene from 1829 to 2658. This evidence establishes

that both pROD 35 and pROD 27, both illustrated in Fig. 5, contain part but not all of the *pol* gene.

Furthermore, the “having” language in the claims allows a nucleic acid to contain at least a portion of the *pol* gene and other sequences. Therefore, merely because the pROD27 and pROD35 include other sequences along with a fragment of the *pol* gene, does not mean that they do not meet the limitations of this claim. In order to clarify these claims, Applicants have amended the claims to replace “having” with “comprising.” Finally, Applicants have added new claims to recite that the *pol* sequence contains at least nucleic acids 1829-2658 and 2658-4936.

Applicants, thus, request withdrawal of this rejection.

### **CONCLUSION**

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims. Should the Examiner believe that the claims are not in condition for allowance, Applicants invite the Examiner to call the undersigned representative at 202-408-4086.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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